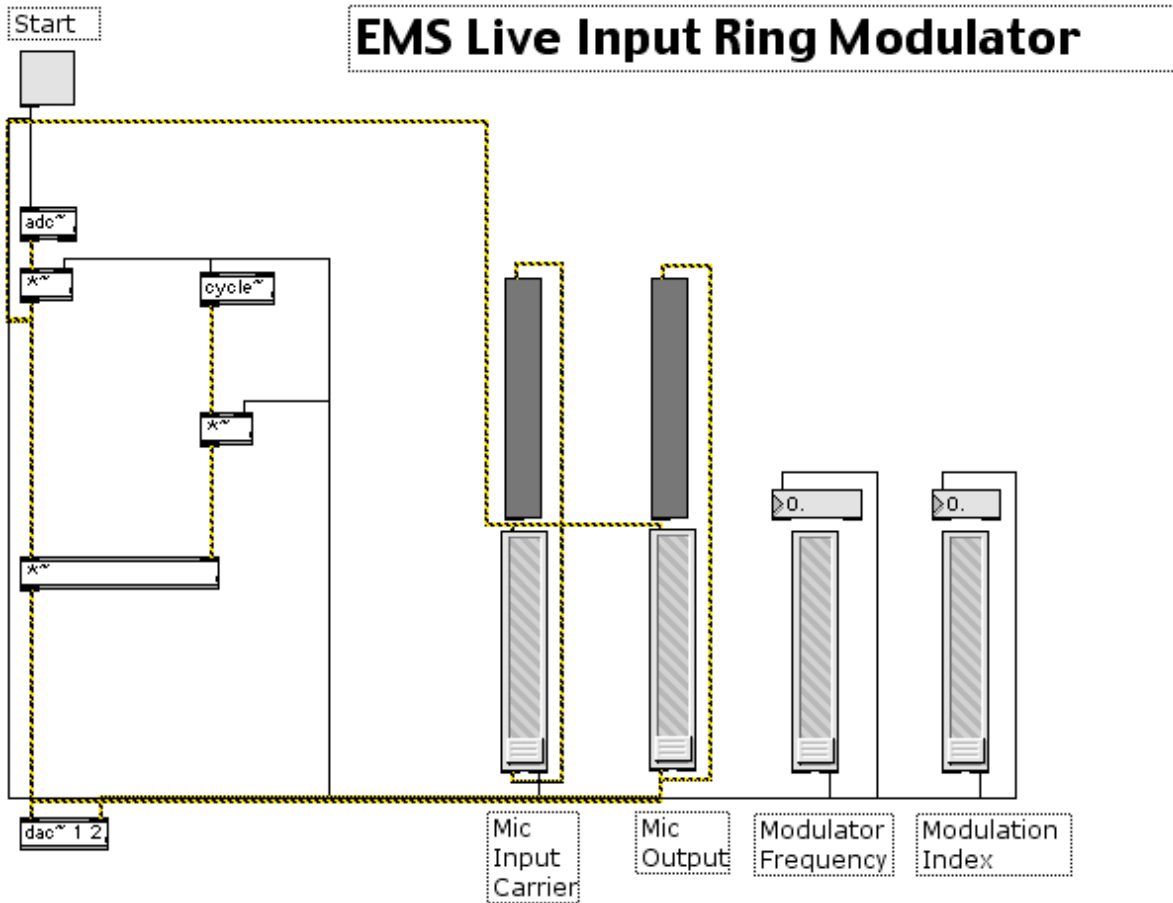


**Electronic Media II**  
**Spring 2003**  
**Max/MSP Live Input Ring Modulator**

1. Create a live mic input, as discussed in class.
2. A ring modulator has the following functions:
  - a) A carrier frequency supplied from a live input, waveform, soundfile, etc.
  - b) A modulator frequency, usually a sine wave between 20-2,000 Hz.
  - c) A modulation index, which controls the amplitude of the modulator.
  - d) When the modulator is applied to the carrier, the interaction of the two waves produces sidebands.
3. Create a ring modulator as shown below.



4. Notice the following:
  - a) Patch cord segments are often overlaid.
  - b) The “Start” toggle turns on the `adc~` and `dac~`.
  - c) The meters have been resized to appear vertically, instead of horizontally.
  - d) Use the `gain~` inspector (**cmd I**) to set the Modulator Frequency and Index to the values shown below.

